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Mineral Industry Surveys

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CHROMIUM IN JULY 2004

On the basis of gross weight, consumption of chromium ferroalloys and metal in July 2004 increased slightly compared with revised consumption in June 2004, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in July 2004, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of July 2004, and U.S. foreign trade data for selected chromium-containing materials in June 2004.

Update

The Defense National Stockpile Center announced the sale of 3,878 metric tons (t) of ferrochromium in August: 2,064 t of high-carbon ferrochromium and 1,814 t of low-carbon ferrochromium. The sale was valued at $4.4 million or $0.51 per pound-gross weight (Defense National Stockpile Center, 2004).

Reference Cited

Defense National Stockpile Center, 2004, Stockpile announces ferrochromium sales for August 2004: Defense National Stockpile Center, News Release DNSC-04-2505, September 7, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2003	2004					
	January-December[2]	April	May	June	Second quarter	July	January-July[2]
Production:							
Stainless steel production[3]	2,210,000	201,000	196,000	214,000	562,000 [4]	189,000	1,330,000 [4]
Components of U.S. supply:							
Stainless steel scrap receipts	757,000	65,500	66,000	67,500	199,000	62,700	471,000
Stainless steel scrap consumption	1,070,000	94,500	95,400	94,100 r	284,000	92,600	658,000
Imports for consumption:							
Chromite ore	173,000	13,400	10,000	6,600	30,000	NA	67,100 [5]
Ferrochromium:							
More than 4% carbon	366,000	47,900	21,900	50,800	121,000	NA	176,000 [5]
More than 0.5%, but not more than 3% carbon	5,340	963	759	1,580	3,300	NA	3,330 [5]
Not more than 0.5% carbon	19,500	2,970	1,980	5,920	10,900	NA	16,700 [5]
Ferrochromium silicon	38,700	6,120	500	4,710	11,300	NA	16,400 [5]
Total ferroalloy imports	429,000	36,300	66,700	25,100	146,000	NA	213,000 [5]
Chromium metal[6]	8,570	1,230	800	700	2,730	NA	5,120 [5]
Stainless steel	639,000	58,500	71,300	67,400	197,000	NA	357,000 [5]
Stainless steel scrap	89,200	12,100	9,070	9,060	30,200	NA	78,400 [5]
Distribution of U.S. supply:							
Industry consumer, chromium ferroalloys and metal	420,000	36,100 r	36,900 r	35,900 r	109,000	37,100	251,000
Exports:							
Chromite ore	103,000	1,340	3,920	11,000	16,200	NA	19,900 [5]
Chromium ferroalloys:					0		
High-carbon ferrochromium	3,180	423	216	405	1,040	NA	3,980 [5]
Low-carbon ferrochromium	1,230	81	21	56	158	NA	614 [5]
Ferrochromium silicon	481	119	133	211	463	NA	776 [5]
Total ferroalloy exports	4,890	623	370	671	1,660	NA	5,370 [5]
Chromium metal	941	69	177	79	325	NA	531 [5]
Stainless steel	327,000	27,200	25,200	25,900	78,300	NA	170,000 [5]
Stainless steel scrap	505,000	35,400	41,300	62,900	140,000	NA	256,000 [5]
Stocks at end of period:							
Industry consumer, chromium ferroalloys and metal	16,700	16,900 r	11,900 r	12,300 r	XX	10,900	XX
Government stockpile:							
Chromite ore	154,000	--	--	--	XX	--	XX
Chromium ferroalloys	683,000	645,000	638,000	633,000	XX	622,000	XX
Chromium metal	6,660	6,660	6,660	6,660	XX	6,670	XX

rRevised. NA Not available. XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May contain revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]May include revised data that is not broken out by specific month.

[5]Includes January through June data; July data not available.

[6]Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS OF
CHROMIUM PRODUCTS IN 2004[1]

(Metric tons, gross weight unless otherwise noted)

	June	July	January-July[2]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	351	377	2,270
High-strength low-alloy steel	514	603	4,360
Stainless and heat-resisting steel	31,200 r	32,100	218,000
Full alloy steel	1,660 r	1,820	10,600
Electrical steel	W	W	W
Tool steel	390	467	3,320
Unspecified Steel	W	W	W
Cast irons	W	W	W
Superalloys	759	706	5,040
Other alloys[3]	73	69	464
Total	35,900 r	37,100	251,000
Total, chromium content	21,100 r	21,700	147,000
Consumption by material:			
Low-carbon ferrochromium	1,880 r	1,980	13,800
High-carbon ferrochromium	30,300 r	31,300	213,000
Ferrochromium silicon	3,120 r	3,180	20,500
Chromium metal	400	391	2,650
Chromite ore	W	W	W
Chromium-aluminum alloy	33	33	231
Other chromium materials	W	W	W
Total	35,900 r	37,100	251,000
Total, chromium content	21,100 r	21,700	147,000
Consumer stocks:			
Low-carbon ferrochromium	1,860 r	1,920	XX
High-carbon ferrochromium	9,030	7,530	XX
Ferrochromium silicon	1,060 r	1,110	XX
Chromium metal	259	230	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	39	32	XX
Other chromium materials	W	W	XX
Total	12,300 r	10,900	XX
Total, chromium content	7,390 r	6,500	XX

rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromite ore		Chromium ferroalloys		Chromium metal
	Chemical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2003:					
July	64,700	83,700	492,000	225,000	7,150
August	71,500 [3]	82,100	484,000	220,000	7,150
September	70,900	82,600 [3]	482,000	218,000	7,100
October	71,500 [3]	82,600	477,000	218,000	7,120 [3]
November	71,500	82,600	472,000	217,000	7,120
December	71,500	82,600	466,000	217,000	6,660
2004:					
January	--	82,600	462,000	215,000	6,660
February	--	82,100	453,000	212,000	6,660
March	--	82,100	453,000	212,000	6,660
April	--	--	436,000	209,000	6,660
May	--	--	430,000	208,000	6,660
June	--	--	425,000	208,000	6,660
July	--	--	414,000	208,000	6,670

-- Zero.

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

[3]The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2003:							
June	1,030	$204	756	443	$653	46	$579
July	985	202	273	150	252	95	1,030
August	22,900	949	387	232	455	119	1,320
September	17,200	626	378	211	479	47	1,160
October	1,030	214	393	208	485	72	1,350
November	634	194	462	262	502	152	2,120
December	54,600	4,090	502	285	548	65	958
January-December	103,000	7,410	4,890	2,830	5,240	941	11,900
2004:							
January	223	74	583	344	767	76	1,520
February	2,510	548	685	409	1,040	76	1,660
March	938	290	2,440	1,400	2,940	54	1,710
April	1,340	359	623	348	735	69	2,230
May	3,920	480	370	198	443	177	1,850
June	11,000	1,570	671	362	931	79	1,400
January-June	19,900	3,320	5,370	3,060	6,850	531	10,400

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2003	2004			
	January-December[2]	April	May	June	January-June[2]
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	77	--	--	--	--
Chromic oxide content	24	--	--	--	--
More than 40% but less than 46% chromic oxide:					
Gross weight	7,940	146	97	348	915
Chromic oxide content	3,370	66	44	156	411
46% or more chromic oxide:					
Gross weight	165,000	13,200	9,950	6,250	66,200
Chromic oxide content	77,400	6,090	4,600	3,140	31,100
Total, all grades:					
Gross weight	173,000	13,400	10,000	6,600	67,100
Chromic oxide content	80,800	6,160	4,640	3,290	31,500
Ferrochromium:					
Low-carbon:[3]					
Not more than 0.5%:					
Gross weight	19,500	2,970	1,980	5,920	16,700
Chromium content	13,300	2,030	1,360	4,000	11,300
More than 0.5% but not more than 3%:					
Gross weight	5,340	963	759	1,580	3,330
Chromium content	3,420	669	499	1,100	2,280
Total, low-carbon:					
Gross weight	24,900	3,940	2,730	7,510	20,000
Chromium content	16,800	2,700	1,850	5,100	13,600
High-carbon:[4]					
Gross weight	366,000	47,900	21,900	50,800	176,000
Chromium content	210,000	27,200	11,700	28,800	98,100
Total, all grades:					
Gross weight	391,000	51,900	24,600	58,300	197,000
Chromium content	227,000	29,900	13,500	33,900	112,000
Chromium metal:					
Unwrought powders	1,810	131	154	96	779
Waste and scrap	284	8	2	--	29
Other than waste and scrap amd unwrought powders	6,480	1,090	644	604	4,310
Total, all grades	8,570	1,230	800	700	5,120

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2004, BY GRADE AND BY COUNTRY[1]

Grade and country	June			January-June[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
India	42	27	$45	129	82	$135
Kazakhstan	14,500	10,000	15,000	39,600	27,500	36,700
Malta and Gozo	--	--	--	60	36	42
Russia	2,240	1,480	2,010	2,270	1,490	2,030
Saudi Arabia	--	--	--	20	11	16
South Africa	29,200	14,400	17,900	112,000	55,800	60,700
Zimbabwe	4,860	2,830	2,800	22,500	13,300	13,700
Total	50,800	28,800	37,800	176,000	98,100	113,000
Low-carbon ferrochromium:[5]						
More than 0.5% but not more than 3% carbon						
Germany	--	--	--	63	44	72
Kazakhstan	1,220	849	2,230	2,020	1,400	3,520
Russia	362	251	440	943	653	1,360
South Africa	--	--	--	300	183	319
Total	1,580	1,100	2,670	3,330	2,280	5,280
Not more than 0.5% carbon:						
Belgium	--	--	--	100	70	139
China	80	50	133	120	77	196
Germany	345	241	599	1,960	1,380	3,130
Japan	140	98	309	901	642	2,060
Kazakhstan	--	--	--	150	106	165
Russia	4,550	3,150	6,950	11,200	7,740	15,000
South Africa	746	418	623	2,140	1,220	1,760
Turkey	60	45	113	100	70	192
Total	5,920	4,000	8,730	16,700	11,300	22,600
All grades:						
Belgium	--	--	--	100	70	139
China	80	50	133	120	77	196
Germany	345	242	599	2,020	1,420	3,200
India	42	27	45	129	82	135
Japan	140	98	309	901	642	2,060
Kazakhstan	15,700	10,900	17,200	41,700	29,000	40,400
Malta and Gozo	--	--	--	60	36	42
Russia	7,160	4,870	9,400	14,500	9,880	18,400
Saudi Arabia	--	--	--	20	11	16
South Africa	30,000	14,900	18,600	114,000	57,200	62,700
Turkey	60	45	113	100	70	192
Zimbabwe	4,860	2,830	2,800	22,500	13,300	13,700
Total	58,300	33,900	49,200	197,000	112,000	141,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7

U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2004, BY GRADE AND BY COUNTRY[1]

Grade and country	June		January-June[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	20	$92	200	$789
France	--	--	4	23
Germany	19	102	59	312
Japan	(4)	11	85	1,250
Russia	39	109	292	1,590
Spain	17	58	121	405
Taiwan	--	--	15	21
United Kingdom	1	61	2	292
Total	96	433	779	4,680
Waste and scrap:				
Germany	--	--	2	21
Japan	--	--	12	48
Malaysia	--	--	(4)	7
Singapore	--	--	9	64
Sweden	--	--	2	6
Taiwan	--	--	4	23
Total	--	--	29	169
Other than waste and scrap and unwrought powders:				
Austria	--	--	(4)	5
China	86	386	1,100	4,360
France	127	908	969	7,180
Germany	5	80	16	333
Hong Kong	--	--	4	9
Japan	--	--	1	45
Mexico	--	--	3	9
Netherlands	--	--	(4)	3
Russia	244	980	1,170	5,410
Switzerland	--	--	(4)	30
Taiwan	--	--	2	15
United Kingdom	142	832	1,060	5,820
Total	604	3,190	4,310	23,200
All grades:				
Austria	--	--	(4)	5
China	106	478	1,300	5,140
France	127	908	973	7,200
Germany	24	182	77	666
Hong Kong	--	--	4	9
Japan	(4)	11	98	1,340
Malaysia	--	--	(4)	7
Mexico	--	--	3	9
Netherlands	--	--	(4)	3
Russia	283	1,090	1,460	7,000
Singapore	--	--	9	64
Spain	17	58	121	405
Sweden	--	--	2	6
Switzerland	--	--	(4)	30
Taiwan	--	--	21	60
United Kingdom	143	892	1,060	6,120
Total	700	3,620	5,120	28,100

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2004[1]

Stainless steel product	June		January-June	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	1,550	$5,200	4,520	$19,000
Flat-rolled (width > 600 mm)	11,000	27,300	82,800	196,000
Flat-rolled (width < 600 mm)	7,850	23,200	48,100	142,000
Bars and rods in irregular coils	287	1,270	1,710	6,030
Other bars and rods	2,010	10,200	11,500	63,200
Wire	557	4,090	4,220	27,800
Tubes, pipes, hollow profiles	2,700	13,200	17,300	79,700
Total	25,900	84,500	170,000	534,000
Stainless steel scrap	62,900	71,300	256,000	291,000
Grand total	88,800	156,000	426,000	824,000
Imports:				
Ingot	15,300	33,100	78,300	163,000
Flat-rolled (width > 600 mm)	28,900	67,800	149,000	336,000
Flat-rolled (width < 600 mm)	3,300	10,600	19,300	62,300
Bars and rods in irregular coils	3,790	9,600	19,200	45,100
Other bars and rods	5,460	17,000	31,100	89,700
Wire	2,720	11,600	18,400	66,900
Tubes, pipes, hollow profiles	7,970	40,200	41,200	181,000
Total	67,400	190,000	357,000	944,000
Stainless steel scrap	9,060	8,700	78,400	91,300
Grand total	76,500	199,000	435,000	1,040,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.